What is claimed is:

1. A swing mechanism of a steering axle in a three-wheeled industrial vehicle, comprising:

a steering axle;

a pair of steerable wheels supported on both sides of the steering axle;

a steering shaft connected to the steering axle for rotating the steering axle in a steered direction, the steering shaft being synchronously rotated with a steering wheel of the vehicle;

a center pin arranged at a lower end of the steering shaft in a longitudinal direction of the vehicle; and

a holder formed on the steering axle, the holder being coupled to the center pin so as to be swingable.

2. The swing mechanism according to claim 1, wherein a pin holder bracket is integrally connected to a lower end of the steering shaft, the center pin being connected to the pin holder bracket.

3. The swing mechanism according to claim 2, wherein a pair of the pin holder brackets is spaced at an interval that is larger than a diameter of the steering shaft.

4. The swing mechanism according to claim 1, wherein the steering shaft includes a stopper plate, the swing mechanism further comprising:

a stopper arranged on both sides of the stopper plate in a direction of vehicle width in facing relation to the steering axle for regulating a swinging motion of the steering axle.

5. The swing mechanism according to claim 4, wherein the stopper is made of steel.

6. The swing mechanism according to claim 4, wherein the stopper is made of one of an elastic material and a damping member.

7. The swing mechanism according to claim 4, wherein the swinging clearance is varied by changing a vertical length of the stopper.

8. The swing mechanism according to claim 4, wherein the swinging clearance is varied by changing a shape of a lower end of the stopper.

9. The swing mechanism according to claim 1, wherein the three-wheeled industrial vehicle is a three-wheeled forklift truck.